

Western Electric Co., Incorporated,  
Engineering Dep.,  
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*No Bond*

METHOD OF OPERATION  
TELEPHONE CIRCUIT

Sender Monitor - Special Outgoing Trunk Test Board - Machine Switching System -  
SOUTHWESTERN BELL TELEPHONE COMPANY

GENERAL DESCRIPTION

1. This circuit is used with sender monitor cord circuit in connection with local trunks and tie line circuits which terminate at the sender monitoring position. It provides the sender monitor with a means of communicating with subscribers, wire chief, repair clerk and zero operators. It is arranged for tripping machine ringing on incoming trunk circuits and for non-charge on calls over plugging up line circuits. It is also arranged to eliminate when answering calls originating over machine ringing trunk circuits.

DETAILED DESCRIPTION

2. When the talking key in a cord circuit is operated in answer to call incoming over a machine ringing trunk, the TP relay operates on ringing current in turn operating the tripping relay in the cord circuit. After the tripping relay in the cord circuit operates the TP relay releases, operating the TP-2 relay in a circuit from ground on the break contact of the TP relay over lead R-2 through the contacts of the talking key in the cord circuit back over lead R-3 through the TP-2 relay, to battery on the break contact of the TP-3 relay. The operation of the TP-2 relay operates the TP-3 relay which locks under control of the talking key. The operation of the TP-3 relay releases the TP-2 relay. The TP-2 relay released, operates the T and CW relays in series. The TP-2 relay is slow in releasing to allow sufficient time for the tripping of the machine ringing before the T relay operates thereby preventing ringing current from being received in the receiver circuit. The operation of the T relay connects the telephone set to the cord. The operation of the CW relay disconnects the telephone set from the incoming call circuit and bridges the winding of the CW-1 relay across the tip and ring of the incoming call circuit and also applies a tone to the ring side of the call circuit. The wire chief or repair clerk incoming on the call circuit at this time hears the tone and the CW-1 relay operates, lighting the call circuit pilot lamp. The tone is an indication to the wire chief or repair clerk that the sender monitor is busy and the lamp is an indication to the sender monitor that the wire chief or repair clerk is connected to the call circuit. When the talking key is restored to normal, all operated relays are released and the circuit is restored to normal. The CW-1 relay is made slow releasing to prevent its release on inductive discharges or when the busy tone is connected to the incoming call circuit.

3. When a call is incoming over a tie line circuit requiring common battery supervision, the operation of the associated talking key bridges the winding of the S relay across the line. The operation of the S relay operates the CW and T relays which function as described in paragraph 2. When the talking key is released all operated relays are released and the circuit is restored to normal.

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4. When the talking key of the cord circuit is operated on an outgoing call, the TP-2, TP-3, T, and CW relays operate and function as described in paragraph 2. Under this condition the TP-1 relay does not operate.

5. When the talking key of a tie line circuit is operated on an outgoing call, the S, CW, and T relays operate and function as described in paragraph 3.

6. The operation of the special CIU key to the monitoring position disconnects the receiver from the induction coil and bridges the receiver across the T and R leads of the cord, trunk or the line circuit for monitoring purposes. The insertion of the plugs of the telephone set in the telephone jacks opens the auxiliary signal.

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CIRCUIT REQUIREMENTS

	<u>OPERATE</u>	<u>NON-OPERATE</u>	<u>RELEASE</u>
Spl. B22 per D-22583 or B215 (TP)	After a soak of approximately .021 amp. Test .0014 amp. Readj. .0013 amp.		After a soak of approximately .021 amp. Test .0003 amp. Readj. .0004 amp.
B51 (CW-1) Wdgs. in series	Test .0032 amp. Readj. .003 amp.		Test .0014 amp. Readj. .0015 amp.
Spl. E197 per D-14102 (CW)	Test .024 amp. Readj. .019 amp.	Test .010 amp. Readj. .011 amp.	
E73 (TP-3)	Test .027 amp. Readj. .013 amp.	Test .0085 amp. Readj. .009 amp.	
E148 (T)	Test .023 amp. Readj. .018 amp.	Test .013 amp. Readj. .014 amp.	
E221 (TP-2)	Test .016 amp. Readj. .015 amp.		Test .0020 amp. Readj. .0022 amp.
Spl. J-10 per D-22581 (S)	After a soak of approximately .060 amp. Test .025 amp. Readj. .014 amp.		After a soak of approximately .060 amp. Test .0009 amp. Readj. .001 amp.

ENG.--AER-JO.  
7/15/21.

CHK'D.--WCD-CWP.

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